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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,616	07/24/2001	Vladimir Segal	30-5004 DIV3	6002

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EXAMINER

MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/912,616	<b>Applicant(s)</b> SEGAL ET AL.	
	<b>Examiner</b> Janelle Combs-Morillo	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37,38,44,45,47-51 and 53-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37,38,44,45,47-51 and 53-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/17/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 38, 48-51, 53-55, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop (US 5,780,755).

Dunlop teaches an aluminum alloy with a grain size of  $< 20\mu\text{m}$  (column 4 line 19), in particular  $< 2\mu\text{m}$  (column 10 lines 12-13), wherein the precipitate regions present are  $< 1\mu\text{m}$  (column 4 lines 22-23). Dunlop teaches that randomly oriented grains (column 8 line 59) or other desired textures (including  $< 111 \rangle$ , see Fig. 11) can be controlled by ECAE (column 8 lines 25-39). Dunlop teaches that said microstructure is uniform throughout (column 8 lines 5-6). Concerning the limitation that said alloy comprises one or both of Ni and Ag, the alloy taught by Dunlop is held to have an impurity level of one or both of Ni and Ag (at least in the range of ppm), which meets said limitation. Applicant has not clearly shown specific unexpected results with respect to the prior art of record or criticality of the instant limitation (wherein said results must be fully commensurate in scope with the instant claim language, etc. see MPEP 716.02 d).

Concerning independent claim 38, because Dunlop teaches that said microstructure is uniform throughout (column 8 lines 5-6), then it is held that Dunlop teaches that the second-phase precipitates are likewise uniformly distributed. The degree of  $< 111 \rangle$  texture taught by

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Dunlop in Fig. 11 (which was the result of ECAE, see column 8 lines 60-67) qualifies as “strong texture”, substantially as presently claimed.

Because Dunlop teaches a product by process substantially as claimed in independent claim 38, including working by ECAE in multiple passes (column 8 lines 1-4) such that a desired texture (including {111}, as claimed in instant claim 38) can be formed by varying parameters of ECAE (column 8 lines 25-59), and because Dunlop teaches when said process is performed on an aluminum alloy a grain size is achieved that overlaps the presently claimed grain size range, it is held that Dunlop has created a prima facie case of obviousness of the presently claimed invention.

Concerning claims 48-50, Dunlop teaches that precipitate regions present  $<1\ \mu\text{m}$  (column 4 lines 22-23), which overlaps the presently claimed range.

Concerning claim 51, as stated above, Dunlop teaches two ECAE passes at column 8 line 1.

Concerning claims 53-55, Dunlop does not teach the orientation distribution function (ODF) of the instant aluminum alloy. However, the examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, if the

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prior art teaches the identical chemical structure, the properties applicant discloses and/or claims (such as ODF) are necessarily present. See MPEP 2112.01.

Concerning claim 58, as stated above, Dunlop teaches an aluminum alloy composition, which meets the presently claimed composition limitation.

3. Claims 37, 44, 45, 47, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop (US 5,780,755) in view of "Aluminum and Aluminum Alloys" pp 290-292.

As stated above, Dunlop teaches an aluminum alloy with a grain size  $<2\ \mu\text{m}$  (column 10 lines 12-13), wherein the precipitate regions present are  $<1\ \mu\text{m}$  (column 4 lines 22-23). Dunlop teaches that randomly oriented grains (column 8 line 59) or other desired textures (including  $<111>$ , see Fig. 11) can be controlled by ECAE (column 8 lines 25-39). Dunlop teaches that said microstructure is uniform throughout (column 8 lines 5-6). Concerning the limitation that said alloy comprises one or both of Ni and Ag, the alloy taught by Dunlop is expected to have an impurity level of one or both of Ni and Ag (at least on the level of ppm), which meets said limitation. Concerning the limitation of having a second element selected from Al, Cu, Pt, Au, Mn, and Ta, because Dunlop teaches an aluminum base alloy Dunlop meets said limitation. Alternatively, the alloy taught by Dunlop is expected to have an impurity level of at least one of said elements (at least on the level of ppm), which meets said limitation. Applicant has not clearly shown specific unexpected results with respect to the prior art of record or criticality of the instant limitation (wherein said results must be fully commensurate in scope with the instant claim language, etc. see MPEP 716.02 d).

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Concerning independent claim 37, Dunlop does not mention “the resulting alloy being precipitate free”. However, it is well known to perform a step of solution heat treating to obtain a homogeneous solid solution, followed by quenching in order to maintain the super saturated solution (see “Aluminum and Aluminum Alloys” p 290-292). It would have been obvious to one of ordinary skill in the art to achieve a precipitate free solid solution for the fine grained sputtering target of Dunlop because the presence or absence of precipitates is known to be dependent on solution heat treating, and because “Aluminum and Aluminum Alloys” teaches a more homogeneous structure can be produced (p 292, 3<sup>rd</sup> column, 1<sup>st</sup> full paragraph).

Instant claim 37 is a product by process claim. With regard to the process steps of solutionizing and quenching prior to equal channel angular extruding, it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See MPEP 2113, *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524) *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Concerning claims 44 and 57, as stated above, Dunlop teaches an aluminum alloy composition, which meets the presently claimed composition limitation.

Concerning claim 45, Dunlop does not teach the orientation distribution function (ODF) of the instant aluminum alloy. However, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims (such as ODF) are necessarily present. See MPEP 2112.01.

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Concerning claim 47, as stated above, Dunlop teaches that said microstructure is uniform throughout (column 8 lines 5-6).

Concerning claim 56, as stated above, Dunlop teaches two ECAE passes at column 8 line 1. See also above discussion of product by process limitations. Applicant has not shown that the presently claimed "from 4 to 6 passes" (claim 56) results in a product materially different than the prior art product.

***Response to Arguments/Amendments***

4. In the response filed on February 17, 2005, applicant amended claims 37 and 38. Claims 37, 38, 44, 45, 47-51, 53-58 are still pending.

The examiner agrees that applicant has overcome the 112 first paragraph new matter rejections.

Applicant's argument that the present invention is allowable over the prior art of record because Dunlop does not teach said alloy comprises one or both of Ni and Ag, has not been found persuasive. The alloy taught by Dunlop is expected to have an impurity level of one or both of Ni and Ag (at least on the level of ppm), which meets said limitation. "Aluminum and Aluminum Alloys" teaches aluminum contains impurity levels Ni and Ag on the order of ppm (see p 638, Table 1).

Applicant has not clearly shown specific unexpected results with respect to the prior art of record or criticality of the instant limitation (wherein said results must be fully commensurate in scope with the instant claim language, etc. see MPEP 716.02 d).

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JCM  
May 11, 2005

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1700